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Fig. 1.

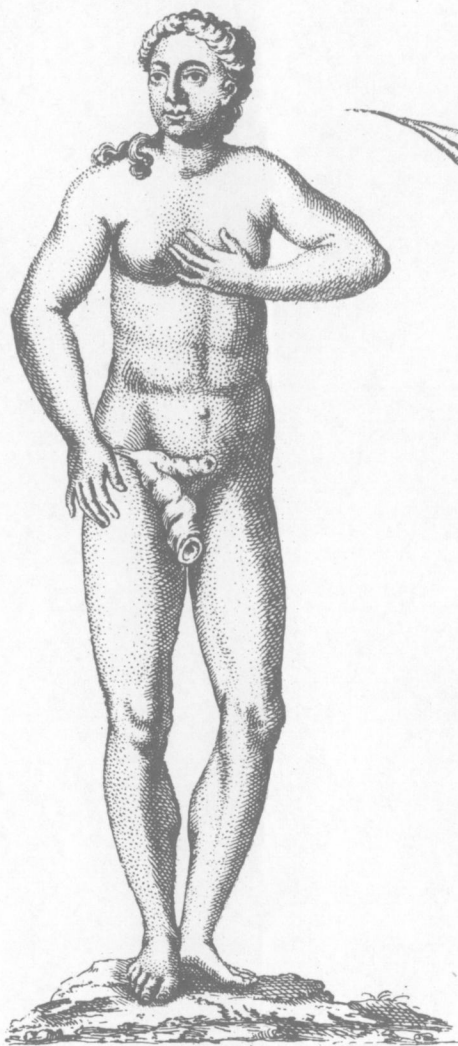
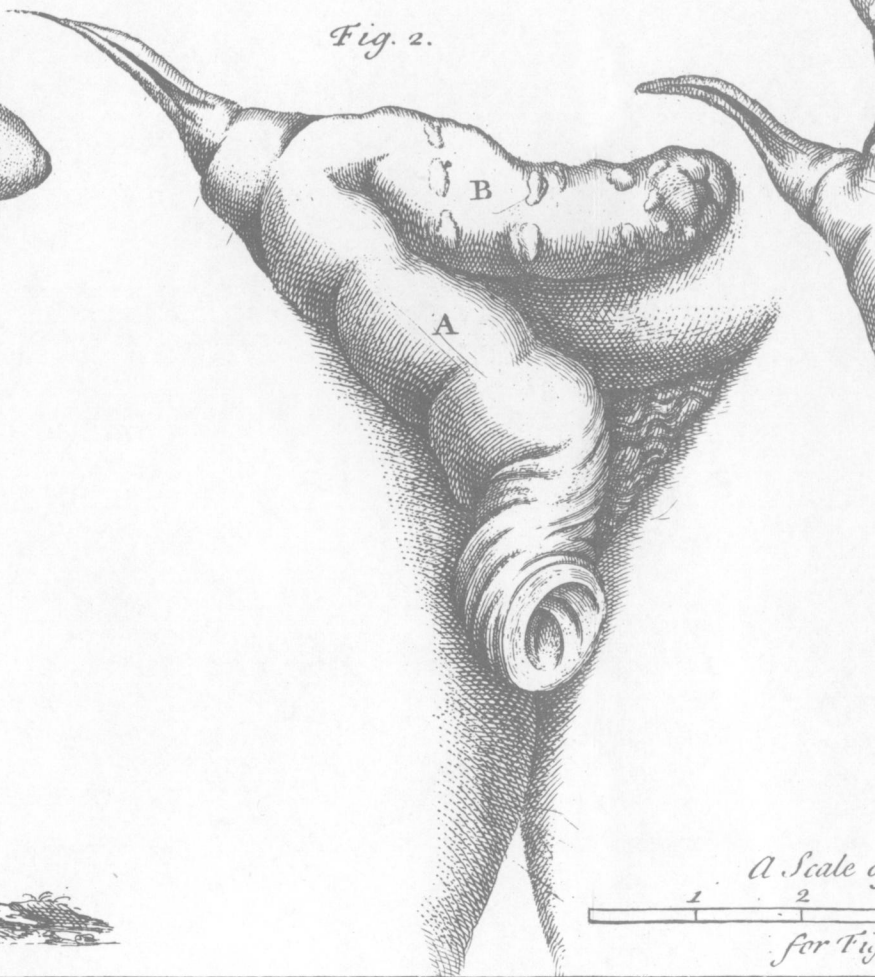
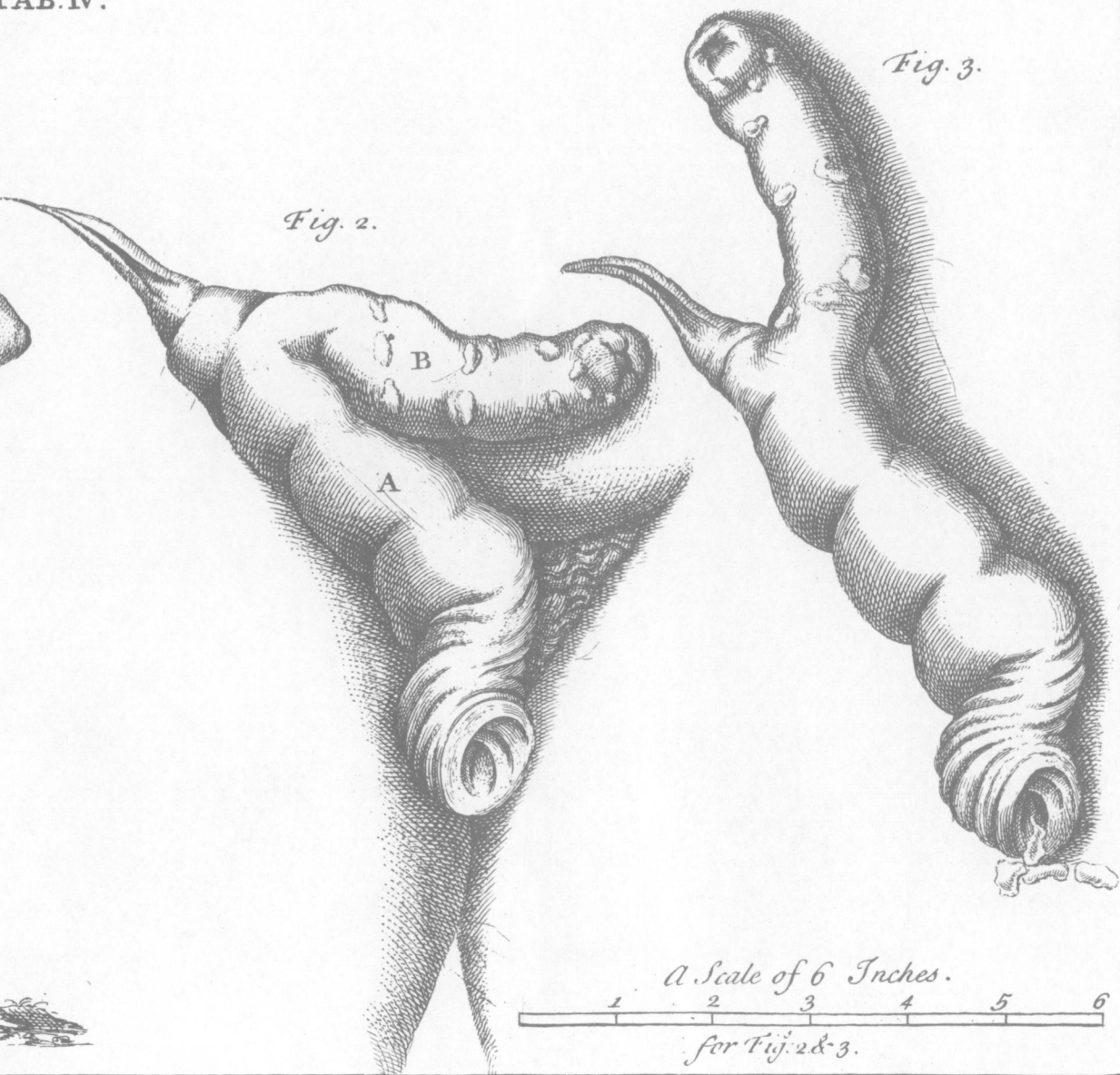


Fig. 2.



A Scale of
1 2
for Fig.



Cases of Conception is the *Pathognomonic* Sign of something preternatural) her Breasts, she concluded her *Menses* were leaving her at their usual Period. But, upon the First of *April*, being taken with great Pains in her Back, and having other Symptoms antecedent to Delivery, there came away, at short Intervals, a very large Number of *Hydatides*, of all the intermediate Sizes, from a Nutmeg to a Pin's-head, some filled with clear, others with bloody *Lymph*; all of them propagated in the manner of a Cluster of Grapes from a spongy Substance, answering the Purposes of a *Placenta*. After the Discharge of these, in a few Days she recovered her accustomed Health.

Upon boiling some of these *Hydatides*, they appeared like the *Ovary* of a boiled *Hen*, with this Difference; in the *Hen*, the Contents of the *Ova* concrete; in this Case, not; but the Transparency was changed to the Colour of Bile diluted with Water.

XII. *Two Medico-Chirurgical Observations, by Monsieur Le Cat: Communicated in a Letter to Mr. Serjeant Amyand, dated at Rouen, Feb. 10. 1740. N.S. Translated from the French by T.S. M. D. F. R S.*

1. *An Observation on Hydatides, with Conjectures on their Formation.*

September 21. 1739. a Woman died in our *Hôtel-Dieu*, who had an *Abscess* in the Right *Hypochondrium*, through which she discharged *Hydatides*; with

with a considerable *Tumour* at the Left *Hypochondrium*.

Her Body was opened. The *Abscess* of the Right *Hypochondrium* was between the common and proper *Membrane* of the Liver. The *Tumour* on the Left Side was almost as thick as one's Head, and twice as long. It was between the common and proper *Membrane* of the Spleen. It ran between the floating Parts of the *Abdomen*, had displaced them, and went so far as to push against the Integuments of the Belly, in its Passage adhering to the Stomach.

I laid this *Tumour* open, and found it filled with *Hydatides* of all Sizes, with clear Water, and mucilaginous *Membranes*, which were the Remains of large *Hydatides*, that were bursted by the Motions of the Patient. I examined with Care both the *Hydatides*, and their Bag: The *Hydatides* were composed of Two mucilaginous transparent, and yet very elastic *Membranes*. The inward *Membrane* had on its concave Surface a sort of Villofity wrinkled and mamillated, that pretty much resembled the Surface of a rough Skin, or what is called a *Goose's Skin*. The softest and most gelatinous of these *Membranes* were very like the vitreous Humour of the Eye. The Water contained in all these *Hydatides* was intirely like the aqueous Humour of the Eyes.

There were Clusters of these *Hydatides* quite resembling the *Ovary* of a *Hen*, or a Bunch of *Grapes*, which were made up of Globules of all Sizes.

The Bag that contained these *Hydatides* was pretty smooth on the Side opposite to the Spleen; that is to say, that Part of the Bag formed by the common *Membrane* of the Spleen, or by the *Peritonæum*, was
pretty

pretty smooth; but on the Side next the Spleen, the Bottom of the Bag was very thick, and composed of several *Lamellæ* half destroyed, which fell off in Bits or Scales, and in Slime, at the least Touch.

It appeared plainly upon the Inspection of these Remains of the Bottom of the Bag, that that was the Source of the *Hydatides*; and, upon considering what Sort of Parts are found on the Surface of the *Viscera*, under their Integuments, it seems evident to me, that these lymphatic Globules were nothing else but *the glandulous and lymphatic Grains of the Surface of the Spleen, dilated into Excrescences by the Disease, and puffed up by the Lymph, which the Distemper caused to accumulate therein.*—And thus I conceive this Effect to be produced.

Proofs. I have proved in my *Physiology*, which is actually in the Press, that these glandulous Grains are nothing but the Ends of the Nerves, or nervous *Papillæ*, which receive the Ends of the lymphatic Vessels into their spongy Texture: And I have, among others, instanced in the *Papillæ* of the Tongue, called *glandulous Papillæ*, which are at the same time the Organ of Taste *, and the Receptacle of the salival *Lymph*.

A Part of the Nerves, which are distributed into the Substance of the Liver and Spleen, terminate in the Surface of those *Viscera*, under the Form of glandulous or pulposus Grains. This same Surface is the Seat of a great Number of *lymphatic Vessels*: And it is not to be doubted but those glandulous Grains are as necessary for those *Lymphatics*, as the *parotid*

* See his *Traité des Sens*, Rouen, 1742. 8vo.

Gland is necessary for the *Lymph* of the *salival Duct*, and the *glandulous Papillæ* of the Tongue for the Liquor that distils from them. In Quality of *Glands*, they are the Receptacle of those Liquors: As *nervous Papillæ*, they furnish the Spirits necessary for the Functions of those Liquors. All these Truths are proved in the Work above-cited. Let us now come to the Consequences of this Structure.

As long as the *glandulous Papillæ* are sound, their excretory Pores pour forth the *Lymph* according as their Cavities receive it from the *Lymphatics*: But if these Pores happen to be obstructed by a Disease; if the Surface of these Grains is altered by any Erosion; or if the natural Tone of these Solids is perverted; the *Lymph* brought into these Grains will be retained therein: It will stretch these Globules; their Substance, having lost its Elasticity, will easily give way; the nutritious Juice, which they will not be able to drive farther, will be there assimilated, and will contribute to the Dilatation. In fine, a Vesicle will be formed filled with *Lymph*, or an *Hydatide*, such as those we have examined.

This Congestion of *Lymph*, or *Hydatides*, will not fail to soften, relax, and raise up the *Membrane* that covers them; and thus a Bag will be formed like that which we found.

When an *Hydatide* swells to a considerable Size, the Volume of the Fluid will become disproportioned to the Force of the Teguments; these will be burst by the Shaking of the contained Fluid, upon the least Motion of the Body. This Fluid will extravasate into the common Bag, upon opening which the Waters and *Membranes*, which result from that Rupture, will be found.

Most Part of the glandulous Grains are distributed into Clusters, as is well known to Anatomists; wherefore *Hydatides* will also be found disposed in Clusters, like *Ovaries*.

Yet the greatest Number of this Heap will be composed of separate *Hydatides*; because, when one of these Globules has acquired a certain Bulk, it will generally break the too feeble Pedicle, which held it attached to the Cluster; and thus it will fall into the common Cavity.

This kind of Eruption, or general Disengagement from the Surface of the Bowel, must destroy its natural Texture, and reduce it exactly to the State in which we found the Bottom of the Bag of *Hydatides*, that were the Subject of this Observation.

2. *An Observation on the singular Consequences of an incomplete Hernia, and on the Functions of the Intestines exposed to Sight.*

C*atharine Guilmatre*, of *St. Adrian*, near *Rouen*, aged 50, had a Rupture in the Right Groin, for Seven Years last past. At *Easter* 1739. there happened a Strangulation in her Rupture; and, having no Assistance, the *Tumour* suppurated, and opened of itself. The Excrements followed the *Pus*, and the Patient escaped at the Expence of Vomitings, and a little Fever.

The *Intestine* cicatrized with the *Integuments*, but there remained externally an Opening, through which the Excrements passed. The *Anus* ceased to perform
its

its usual Functions; and, that excepted, the Patient was cured.

Towards *Whitsuntide*, there issued out at the Wound, besides the Excrements, a Gut Three or Four Inches in Length; but this Gut was turned Inside out, that is, the villous Coat was outward, and it conveyed no Excrements; these were always discharged through the Wound, on one Side, and below the Gut that was come out.

In the Month of *August* of the same Year 1739. there came forth at the Wound another Gut, turned as the First, making with it a continuous Canal, but at its End supplying *Fæces*, which had before been discharged through the Fistula; so that, instead of the Fistula, there was found, as it were, the Trunk of Two *Intestines*, which made a kind of Fork, as appears in Fig. 1. 2. and 3. TAB. IV.

The Woman, tired of this Inconveniency, resolved at length to seek Relief. Fortune presented her with no other than the *Hôtel-Dieu* of *Rouen*. She was brought thither in *December*. I was then in the Country: She was told, that her Distemper was incurable; and yet she was kept there till my Return, to shew her to me by way of Curiosity.

In Effect, I found her Case deserved my utmost Attention; and I had her carried to my House, in order to examine it more at Ease, and to have Drawings taken of her Distemper, as may be seen in Fig. 1. 2. and 3.

What was curious in this Distemper, was not an *Anus* formed contrary to Nature in the Groin (that Accident is pretty common); but it was the Two Guts turned Inside out, their villous Coat, and their

Functions, demonstrated to the very Eye; as also the *Enigma* occasioned by these Two Guts, which were both of one Piece, as appears in Fig. 3. TAB. IV. and which notwithstanding had Two Openings, the lower whereof voided the Excrements, and the upper discharged nothing. I know of no other Person but Mr. *Chefelden*, who has observed an inverted Gut in a living Body: But my Observation adds to his, 1st, Experiments on the Action of Purgatives: 2^{dly}, The singular Figure of this *Hernia*, the Discovery of which has an Influence on the radical Cure of this Disease, and on those of the same kind which may possibly happen, as will be seen by the Sequel.

I think I may give the Epithet of *Singular* to this sort of *Hernia*; because, upon Inspection, one instantly conceives, that the Gut which voided the Excrements was continuous to the Stomach, and the other to the *Anus*. But how was it possible, that these Two inverted Guts should be of one Piece? Let one imagine a Gut cut through by a Strangulation: There remain Two Orifices, one that runs to the Stomach, the other to the *Anus*: If the Canal of each of these Orifices turns Inside-out, and prolapses, as it happens, to the *Anus*; you then have Two Guts prolapsed and turned, but they are distinct one from the other, far from being of one Piece. It must be allowed, that the *Enigma* is puzzling: And indeed, a good Number of Surgeons saw this Singularity, but not one of them accounted for it. The Reader, if he be an Anatomist, has but to attempt the Solution, in order to be sensible of the Difficulty. The Figures, TAB. IV. annexed to this *Transaction*, perfectly resemble Life, only somewhat contracted.

The

The villous Coat, and the Functions of these *Intestines*, being exposed to the Eye, afforded a Circumstance still more curious and useful. These Two Portions of Guts seemed to be Two large living Worms. They move here-and-there, twisting, shortening and lengthening themselves like Reptiles. The lower Gut was much more alive, and sounder. One time that I handled it, it twisted round my Fingers like an *Eel*. The upper Gut, that answered the *Anus*, had less Motion, and was beset with Pustules.

The Expulsion of the *Fæces* engaged our particular Regard: We remarked in its Mechanism Two Sorts of Motion.

The First is the vermicular Motion, allowed by most Authors. In this, the Gut first swells, and becomes smooth; then grows narrower, running into Wrinkles, and forming Waves the whole Length of the Gut, where these Two Motions happen alternately. The Streightening is performed behind, and upon the Excrements, to drive them down; the Dilation happens before these *Fæces*, in order to open them a Passage: For Example: When the *Fæces* were at the Orifice, through which we saw them issue, this Orifice was spread open.

The Second Sort of Motion that we observed in the Guts, generally preceded the one above described. In this Motion the Surface of the Gut, being swelled and smooth, was rendered uneven by many small Impressions [or Hollows] distributed here-and-there, and which seemed to be formed by little local Convulsions, circumscribed by the *intestinal Fibres*. These convulsive Impressions resembled, in little, those that are made in the *Abdomen*, upon contracting some one

of its *Muscles*. They made the Surface of the *Intestine* a little pale, and thereby formed a sort of Undulation on its Surface. It was chiefly in this sort of Motion, that there was squeezed out of the villous Coat of the *Intestines*, a Mucilage and Serosity, which flowed from it in Abundance. Both these seem to serve for diluting the *Fæces*, and preparing them an easier Passage. The cold Air did not fail to excite these Motions, and the Woman felt some Touches of the Colic.

After having made these Observations on the natural Functions of the *Intestines*, it occurred to my Thoughts to observe the Effect of Cathartics therein. One does not often see the Inside of the Guts of a living Person in good Health, and freely performing his Functions: Wherefore I was willing to make use of so uncommon an Occasion.

First, I put a little Pulp of *Cassia* on several Places of these Two Portions of Gut. This Medicine made very little Impression on those Parts; they stirred very little, especially the upper Gut.

Next, I laid on *Manna*. This, when somewhat dissolved; formed a sort of Froth, and then the Gut was agitated by vermicular Motions, and by small convulsive Contractions, much more distinct than in the Conditions I had examined it before.

I took off the *Manna*, and strewed Powder of *Jalap* on the Gut. At first it had no Effect; but, when it was moistened, the Gut was violently agitated, discharged much Serosity, and the Patient complained of Gripings. I removed the Powder, and under it I found a great Quantity of Mucilage, that was already gathered there.

I thought it needless to harraſs this Woman by further Trials, which would prove much the ſame with the foregoing; and therefore turned my whole Attention on the Means of curing her of this Accident, and thereby rewarding her for the Services ſhe had rendered us.

At firſt Sight of this Diſeaſe, I was as far as the other Surgeons from comprehending the *Ænigma* of the Figure of the Two Ends of the Gut continuous [or of one Piece.] I plainly ſaw, that they were Portions of the *Ileum*; but I was obliged to meditate on it a ſecond time, in order to gueſs at the reſt; and yet nothing ſo eaſy when a Perſon has hit it off.

*The Nature
of this Acci-
dent explain-
ed.*

The *Hernia* which this Woman had at firſt, was one of thoſe named an *incomplete Hernia properly ſo called*; that is, a *Hernia* wherein there was but a Portion of the Side of the Gut pinched within the Ring. This ſtrangulated Portion mortified; the ſound Lips cicatrized with the *Integuments*; the reſt of the Canal remained within the Belly; and the Excrements, which this Remainder of the Canal received, iſſued at its Outlet towards the Groin.

The Patient, being recovered, quitted her Bed, and by little and little occaſioned the turning Inſide out, and Fall of the Portions of the inteſtinal Canal, ſituated above and below the open Part. By this Inverſion, the remaining Coats of the opened Gut came out likewiſe. This Part is ſituated between the Two Portions, one of which answers to the Stomach, and the other to the *Anus*; and with theſe Two Portions it makes but one and the ſame Part, or a continued

tinued Plane: Wherefore it was found, out of the Belly, between these Two Portions, and formed, as it were, the Trunk of these Two Branches.

The Portion, or Branch, corresponding with the *Anus*, must have had less Motion, and be less found; because it is deprived of the Share of Life that would come to it from the Continuity of the *Fibres* that were pinched and carried off by the Strangulation, and that it is continually exposed to the Air. The other Portion is full of Life, because its Continuity with the Stomach makes it enjoy all the Life that this Communication can furnish it with; and that besides it remains within the *Abdomen*, while the Patient is in a recumbent Posture.

In order to give the Pupils of our *Hôtel-Dieu* a clear Notion of the Formation of this singular Rupture, I made one just like it on a dead Body. For that Purpose I made an Incision in the *Abdomen*, at the Place of the Rings. I passed into it a Gut, in which I made an Opening. I sewed the Lips of this Opening to those of the Wound of the Belly; and having turned Inside out the Portions of Gut placed above and below this Opening, they afforded us a Bifurcation of Guts continuous and intirely like that of the Observation.

*Method of
curing this
Accident.*

A Disease well known is sometimes half cured. This same Portion of Gut that supplied the *Fæces*, and that was so lively, was drawn back into the Belly, when the Patient lay down, as I have already said; and the other only constantly continued out. This Circumstance made me conceive Hopes of curing this Accident.

Thus

Thus I reasoned with myself: It is but first making this last Gut enter in, and bringing the Disease to its first State: Then, seeing there is a pretty large Portion of a Canal still remaining between these Two Guts, as appears by the Bigness of the Trunk of the Branches formed by them; what remains to be done, after the Whole is reduced, is to close the exterior Orifice of this demolished Canal; that is, to close the Opening made by the Strangulation and Mortification; and I conceive, that this last Operation is very feasible. The next thing to be done is to refresh the Lips of the Fistula formed by the Integuments of the *Abdomen*, which are thick enough, and on which shall be afterwards made a *Gastrostomia* proportionate to these Parts.

The great Difficulty is, to reduce this End of Gut, which is grown hard, and full of Tubercles. I have already made a fruitless Attempt, both with Cataplasms to repair the Damages, and with manual Operations proper for making it re-enter. I am actually watching a favourable Moment for this Operation. If I succeed, I intend to stay for making a second Operation, till this Gut has remained long enough in the Belly to repair itself, and resume its Functions. In order to that, I shall content myself for the first Eight Days, with keeping it in the Belly, applying resolving Fomentations, and giving proper Clysters. Then will I put into the Opening of the intestinal Canal, that answers to the Fistula, a silver *Canula* of the same Bore with the Gut; in order to push this Portion of a Canal into the Belly, to support it therein, and re-establish its Communication with the Portion newly reduced. This silver *Canula* will be
fixed

fixed by a Plate of the same Metal, guarded with Plaster and Linen, and placed on the Fistula, where it shall be secured in its Situation by a Bandage. I shall then redouble the Use of the Clysters, and when I shall be ascertained of the Re-establishment of the Communication of the Two Guts, and the Functions of the Portion continuous to the *Anus*; then I will withdraw my silver *Canula*, and will perform the Operation, as I have said above.

EXPLANATION of TAB. IV.

Fig. 1. The Woman with the *Hernia* in *Situ*.

Fig. 2. The *Hernia* represented at about half its natural Size.

A. *The lower Part of the Intestine communicating with the Stomach, and emitting the Excrements.*

B. *The upper Part of the Intestine, which is continued down to the Anus, and emits only Mucus, and serous Humours.*

Fig. 3. The upper Part of the *Intestine* raised up, that the Connexion of these Two Parts of the *Intestines* may the better appear.